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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,621	12/03/2004	Tatsuo Tsuneka	SAE-036	5295

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EXAMINER	
CHEUNG, WILLIAM K	
ART UNIT	**PAPER NUMBER**
1796	

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11/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/516,621	TSUNEKA ET AL.	
	Examiner	Art Unit	
	WILLIAM K. CHEUNG	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *052908*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the petition decision of April 1, 2008, the “finality” status on the office action of November 16, 2007 has been changed to “non-final" status. Claims 6-11 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (US 6,150,076), for the reasons adequately set forth from paragraph 3 of the office action of November 16, 2007.

6. (currently amended) A process for producing an aqueous resin dispersion composition consisting essentially of an acid-modified chlorinated polyolefin, basic substance and water and without the use of an emulsifier comprising the steps of, in order:

dissolving an acid-modified chlorinated polyolefin in an ethereal solvent;

adding a basic substance to the acid-modified chlorinated polyolefin to neutralize;

adding a dispersion medium consisting of water to disperse the neutralized acid-modified chlorinated polyolefin therein; and

removing the ethereal solvent to obtain the aqueous resin dispersion.

Yamamoto et al. (col. 7, line 27-36) disclose a process for preparing a photosensitive resin composition comprising the components to be dissolved in any order and mixed in an appropriate solvent such as tetrahydrofuran, dioxane which can swell, disperse. Then the ethereal solvent is removed at the end of the process.

Regarding the claimed “adding a basic substance to the acid-modified chlorinated polyolefin to neutralize”, Yamamoto et al. (col. 5, line 12-29) clearly disclose a step of adding an amine to the photosensitive resin composition to obtain a specific pH. Further, Yamamoto et al. (col. 4, line 5-11) disclose that the chlorinated polyethylene has about 10-50 wt% of chlorine.

Because Yamamoto et al. (col. 3, line 64 to col. 4, line 4) clearly disclose the specific commercially available chlorinated polyethylene products inherently possess a specific molecular weight ranges and that the claimed molecular weight range of claim 9

is quite broad, the examiner has a reasonable basis that that claimed molecular weight range is possessed in Yamamoto et al.

The examiner acknowledges that Yamamoto et al. (col. 6, line 20-28) disclose that when water is used, a surfactant such as sodium alkylbenzenesulfonate, sodium alkylnaphthalenesulfonate,…may be contained in the water. However, Yamamoto et al. do not teach that a surfactant must be used. Therefore, the examiner has a reasonable basis that the claimed process fully encompasses processes that do not involve the use of an emulsifier.

Regarding the claimed "acid-modified chlorinated polyolefin", Yamamoto et al. (col. 3, line 65 to col. 4, line 4) disclose generically all chlorinated polyethylene (including the acid-modified chlorinated polyolefin as claimed) is a one of the components of the disclosed photosensitive resin composition.

The difference between the invention of claims 6-11 and Yamamoto et al. is that Yamamoto et al. do not disclose that the chlorinated polyethylene has be acid-modified.

However, the teachings of Yamamoto et al. (col. 3, line 65 to col. 4, line 4) generically include all chlorinated polyethylene, which include the acid-modified chlorinated polyolefin as claimed. Motivated by the expectation of success of developing the process of preparing a photosensitive resin composition (abstract), it would have been obvious to one of ordinary skill in art to recognize that an acid-modified chlorinated

polyethylene is still within the scope of chlorinated polyethylene teachings of Yamamoto et al. to obtain the invention of claims 6-11.

4. Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (US 6,150,076) in view of Sales (US 5,169,888), for the reasons adequately set forth from paragraph 4 of the office action of November 16, 2007.

Yamamoto et al. (col. 7, line 27-36) disclose a process for preparing a photosensitive resin composition comprising the components to be dissolved in any order and mixed in an appropriate solvent such as tetrahydrofuran, dioxane which can swell, disperse. Then the ethereal solvent is removed at the end of the process.

Regarding the claimed "adding a basic substance to the acid-modified chlorinated polyolefin to neutralize", Yamamoto et al. (col. 5, line 12-29) clearly disclose a step of adding an amine to the photosensitive resin composition to obtain a specific pH. Further, Yamamoto et al. (col. 4, line 5-11) disclose that the chlorinated polyethylene has about 10-50 wt% of chlorine.

Because Yamamoto et al. (col. 3, line 64 to col. 4, line 4) clearly disclose the specific commercially available chlorinated polyethylene products inherently possess a specific molecular weight ranges and that the claimed molecular weight range of claim 9 is quite broad, the examiner has a reasonable basis that that claimed molecular weight range is possessed in Yamamoto et al.

The examiner acknowledges that Yamamoto et al. (col. 6, line 20-28) disclose that when water is used, a surfactant such as sodium alkylbenzenesulfonate, sodium alkylnaphthalenesulfonate,…may be contained in the water. However, Yamamoto et al. do not teach that a surfactant must be used. Therefore, the examiner has a reasonable basis that the claimed process fully encompasses processes that do not involve the use of an emulsifier.

Regarding the claimed "acid-modified chlorinated polyolefin", Yamamoto et al. (col. 3, line 65 to col. 4, line 4) disclose generically all chlorinated polyethylene (including the acid-modified chlorinated polyolefin as claimed) is a one of the components of the disclosed photosensitive resin composition.

The difference between the invention of claims 6-11 and Yamamoto et al. is that Yamamoto et al. do not disclose that the chlorinated polyethylene has be acid-modified.

Sales (col. 2, line 56-68) discloses the advantages of using a chlorinated polyethylene that has been acid-modified, which would make the chlorinated polyethylene suitable as vehicle for printing inks or adhesives. Therefore, motivated by the expectation of success of developing a resin composition that is suitable for the printing ink or adhesive industries, it would have been obvious to one of ordinary skill in art to replace the chlorinated polyethylene of Yamamoto et al. with the acid-modified polyethylene of Sales to obtain the invention of claim 6-11.

Regarding the claimed "0.1 to 10 wt%" of claim 7, Sales (col. 2, line 56-68) clearly discloses using a chlorinated polyethylene that has been acid-modified at an undisclosed level of acid functionalities. However, applicants must recognize that "acid-modified" implies that the level of acid functional group incorporation should be less than 50wt%, which inherently possess the "0.1 to 10 wt%" of claim 7.

Response to Arguments

5. Applicant's argument filed in the petition of January 15, 2008 and the argument of February 19, 2008 have been fully considered but they are not persuasive.

In the petition, applicants argue that applicants' response of August 30, 2007 (page 7) requested the examiner to revisit the comparative data of the declaration of May 22, 2006.

> Finally, it is noted that notwithstanding any *prima facie* obviousness alleged by the Office to be supported by Yamamoto, alone or as modified by Sales, the showing in the Declaration (under 37 C.F.R. § 1.132) of Tatsuo TSUNEKA submitted with the response of May 22, 2006, of the criticality of the process sequence recited in claims 6-11 of the present application is sufficient to demonstrate the unobviousness of the process of the present invention. Consideration of this showing is requested.

However, regarding applicants' request for revisit the comparative data of the declaration filed May 22, 2006, the examiner has clearly addressed the issues in the advisory action of March, 13, 2008, by stating that Yamamoto et al. (col. 3, line 65)

teach compositions comprising chlorinated polyethylene (component A), not chlorinated propylene ethylene copolymers used in the comparative examples in the declaration filed. Applicants must also recognize that the water taught in Yamamoto et al. is for dissolving component (B) hydrophilic monomers in dispersion, not chlorinated polyethylenes (component A) (col. 2, line 61-67). Further, the composition as taught in Yamamoto et al. (col. 2, line 61-66) clearly comprises hydrophobic component (A) and hyrophilic component (B), and the appropriate solvent of each the components taught. Therefore, in view of the reasons set forth above, the comparative data filed on May 22, 2006 clearly are not done according to the procedure of Yamamoto et al. and therefore the argued "comparative data" fail to show the criticality of the claimed invention.

Applicants argue that it is unclear if teachings of Yamamoto et al. (col. 7, line 26-29) "the above-described components of the photosensitive resin composition are dissolved in any order and mixed in an appropriate solvent or component (D)" can include the processing order of claim 6. However, applicants fail to recognize that Yamamoto et al. (col. 7, line 26-29) teach that "any order" is suitable, which includes the order of applicants' claim 6.

Regarding applicants' argument that Yamamoto et al. discloses that solvent (i.e., all solvent including water) is removed in the process, applicants fail to recognize that water is a non-solvent, and ether has a much lower boiling point and lower heat of vaporization as compared to water. Therefore, the examiner has a reasonable basis that the ethereal solvent can be removed without removing the water in the composition of Yamamoto et al. Regarding applicants' argument that claim 6 as written excludes

non-recited components such as the hydrophilic polymer (B) of the composition of Yamamoto et al. that would be expected to affect the basic characteristics of the aqueous resin dispersion composition, applicants fail to submit any evidence to support such argument. Further, applicants must recognize that the specification as written fail to define what properties are considered to be the basic properties of the claimed process.

Regarding applicants' argument that the amended claim 6 recites that the etheraeal solvent is removed to obtain the aqueous resin dispersion, applicants must recognize that water is a non-solvent to chlorinated polyethylene. Chlorinated polyethylenes (hydrophobic component A) are typically soluble in etheral solvents, chloroform, toluene, and benzene, not water. The water taught in Yamamoto et al. (col. 7, line 31) is for dissolving the hydrophilic componetn (B), which are clearly taught in Yamamoto et al. (col. 4, line 36-65). Regarding the claimed "dispersion" feature, applicants must recognize that when the hydrophobic component (A) and hydrophilic component (B) are mixed, it would result in the formation of a dispersion.

Regarding applicants' argument that the recitation "removing the ethereal solvent to obtain the aqueous dispersion" of claim 1 implies that all the ethereal solvent has been removed to obtain the aqueous dispersion, however, the claim does not support the argued "all" feature. Applicants must recognize that the removing part of the ethereal solvent or imcomplete removal of the ethereal solvent can still result an aqueous dispersion because the water component will remain the composition until most of the ethereal solvent component has been removed. Applicants must also

recognize that the removal of the ethereal solvent does not mean the water component in the composition as taught in Yamamoto et al. is removed since water has a much higher heat of vaporization as compared to ethereal solvents.

In view of the reasons set forth above, the rejection issued on November 16, 2007 is maintained.

Conclusion

6. Since the examiner did not raise any new issues in the instant office action, accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K. Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/William K Cheung/
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.
Primary Examiner
November 4, 2008